

MULTI-PACK CARTON WITH BOTTOM INTEGRATED HANDLE

Inventor: Gregory Schriener

Field of Invention

[0001] The present invention relates generally to multi-pack containers used for commercial products and more particularly to containers used to carry moderately heavy products.

Background of the Invention

[0002] Consumers, in the name of convenience, often desire to purchase multiple identical products at the same time. Therefore, manufacturers often sell their goods in multi-packs, where a consumer can purchase multiple products at once in a single convenient package. For this reason, packaging has become a critical element in the purchase of goods to both consumers and manufacturers alike.

[0003] This invention relates to a folding box assembly designed to carry multiple objects securely, that is without the objects moving substantially in any direction. Previous box assemblies have attempted this objective, but have done so with many problems.

[0004] For example, in order for a box assembly to carry a moderately heavy product, many of the box assemblies must be composed from a stronger material. However, if a proper structure is used, then a weaker and, therefore, cheaper material may be used to construct the box assembly.

[0005] Additionally, many box assemblies, in order to stabilize the objects being carried, contain interior partitions separating the objects. Once again, with the proper design, it is possible to secure the objects without these partitions, and, consequently, less material is needed.

[0006] Accordingly, there is a need for a package that enables manufacturers to package multiple products in a single container, which is strong and secure, while encompassing less and cheaper material. The present invention addresses this need.

Summary of the Invention

[0007] The present invention provides a foldable box assembly that is configured to securely carry a moderately heavy product or products with less box material than the prior art. For example, in accordance with various aspects of the present invention, a number of objects may be placed in the assembled box with a closed lid, enabling easy transport of the objects, while the objects remain in position.

[0008] In accordance with an exemplary embodiment of the present invention, the foldable box assembly is able to achieve its strength due to its configuration. An integrated handle is configured to connect to the bottom of the foldable box assembly and extend through the top of the assembled box. In accordance with various aspects of the present invention, the integrated handle is coordinated such that it passes through the handle apertures in the top of the closed, assembled foldable box. Additionally, the foldable box assembly contains product openings in the top of the box assembly that allow objects carried in the foldable box assembly to protrude from the top of the assembled box when the top is closed and provides additional security for the objects.

Brief Description of the Drawings

[0009] Additional aspects of the present invention will become evident upon reviewing the non-limiting embodiments described in the following specification and claims taken in conjunction with the accompanying drawing figures, wherein like numerals designate like elements, and

[0010] FIGURE 1 is an overhead view of an exemplary foldable box assembly that is not assembled in accordance with the present invention;

[0011] FIGURE 2 is a bottom view of an exemplary assembled foldable box assembly in accordance with the present invention;

[0012] FIGURE 3 is a top view of an exemplary assembled foldable box assembly with the top removed in accordance with the present invention;

[0013] FIGURE 4 is a side view of an exemplary assembled foldable box assembly in accordance with the present invention; and

[0014] FIGURE 5 is an overhead view of an exemplary foldable box assembly that is not assembled that shows the coordinate system in accordance with the present invention.

Detailed Description

[0015] The following description of the present invention is of exemplary, non-limiting embodiments only and is not intended to limit the scope, applicability, or configuration of the invention in any way. Rather, the following description merely provides convenient illustrations for implementing illustrative embodiments of the invention. For example, various changes may be made in the design and arrangement of the elements described in these embodiments without departing from the scope of the invention as set forth herein.

[0016] That being said, generally, in accordance with the present invention, a foldable box assembly 10 is provided that is configured to be able to securely carry moderately heavy product or products. For example, in accordance with various aspects of the present invention, foldable box assembly 10 is configured with a base, a top, and a bottom. Additionally, box assembly may comprise a structure that secures the objects being carried from moving laterally, longitudinally, or vertically, that is from moving in any direction at all. Benefits achieved over the prior art are related to the stability and security of the objects being carried in the box assembly, with less material needed.

[0017] In accordance with various aspects of the present invention, foldable box assembly 10 is configured with a handle 50 that is integrated with the bottom of the package. The configuration of foldable box assembly 10 with integrated handle 50 enables assembled box to carry a moderately heavy to heavy product even while the foldable box assembly 10 is comprised of a relatively weak material (e.g., fairly light caliper paperboard.) Furthermore, the integrated handle also contributes to securing the objects from moving in various directions.

[0018] In accordance with an exemplary embodiment of the present invention, and with reference to Figure 1, foldable box assembly 10 preferably includes two bottom flaps 40. In the presently described embodiment, the bottom flaps 40 are of the same size, therefore the bottom of the foldable box assembly, as seen in Figure 4, will comprise the two bottom flaps, with each individual flap being one half of the total area of the bottom of the foldable box assembly when assembled. It should be noted, however, that any number of bottom flaps may be used, including a single bottom flap and the use of minor bottom flaps 42. Furthermore, if two bottom flaps are used it is possible for them to be of unequal sizes and overlap one another if necessary.

[0019] In various embodiments of the present invention, an integrated handle element 50 is connected to each of the bottom flaps 40. In the presently described embodiment and with reference to Figure 1, the two integrated handles 50 are at the end of the bottom flaps 40. The engagement of the integrated handles 50 with the bottom flaps allows the two integrated handles to come together side by side, as exemplified in Figure 3. With continued reference to Figure 3, the two integrated handles 50 extend from the bottom of the foldable box assembly 10, through the inside of the assembled box, and out the top of the assembled box.

[0020] Additionally, in its various embodiments, foldable box assembly 10 may be configured with two top flaps 30 encompassing the top of the foldable box assembly.

Preferably, the two top flaps 30 are equal in size. In yet another embodiment of the present invention, the two top flaps are equal in size and are greater in size than half of the total area of the top of the box. As can be seen in Figure 2, the two top flaps preferably overlap one another. Again however, it should be appreciated that any number of top flaps, of any size, may be used, including the use of minor top flaps 32, which are between the two top flaps 30.

[0021] Additionally, the foldable box assembly 10 may contain product openings 60. The product openings allow a product being carried in the foldable box assembly to protrude from the top of the box when assembled. In the presently described embodiment there are eight product openings 60 in the top of the foldable box assembly. In addition to allowing the top of the objects being carried to be seen, the product openings 60 aid in securing the objects being carried from moving laterally, longitudinally, or vertically. Furthermore, it is preferred that each product opening is circular in shape. It should be noted, however, that any number of product openings may be used, including none, and may encompass any possible shape, often depending on the shape of the product carried by box 10.

[0022] As can best be seen in Figure 1, in one embodiment, both top flaps 30 contain a handle aperture 62. Preferably, the two handle apertures 62 will overlap one another to form one single opening in the box top, which allows the integrated handle 50 to pass through the top flaps 30 when the foldable box is assembled. It should be noted, however, any other method that allows the integrated 50 to pass the top of the foldable box assembly when assembled may be used.

[0023] In addition, in its various embodiments foldable box assembly 10 preferably includes a locking mechanism. The locking mechanism aids in keeping the top of the foldable box assembly closed when the box is assembled. With reference to Figure 1, locking mechanism of foldable box assembly preferably includes tuck flaps 64 and tuck flap slots 66. In this

presently described embodiment, the tuck flaps 64 are inserted into tuck flaps 66, which help keep the top of the box closed. Furthermore, with continued reference to Figure 1, it is desirable that a tuck flap 64 is placed on each top flap 30, while there is a corresponding tuck flap slot 66 in the creases between the top minor flaps 32 and the side panels 22. Accordingly, it will be appreciated that any number of configurations of locking mechanism may fall within the scope of the present invention to the extent that the locking mechanism aids in keeping the top of the foldable box assembly closed when the box is assembled.

[0024] As can be seen in Figure 5, the box assembly is created using a generally rectilinearly shaped material that is divided in sixteen separate areas (quadrants). With continued reference to Figure 5, the quadrant in the lower left corner is labeled (0,0) and, conversely, the quadrant in the upper right corner is labeled (3,3). Using a Cartesian coordinate system, the lower left hand corner is the intersection of the two perpendicular axes. The x-coordinate increases as you go to each additional quadrant to the right. Alternatively, the y-coordinate increases as you go to each additional quadrant that above the previous one.

[0025] With continued reference to Figure 5, quadrants (0,2) and (2,2), and (1,2) and (3,2) preferably encompass two front panels and two side panels respectively. In addition, quadrants (1,0) and (3,0) preferably are cut-outs, meaning that the material is cut out of that quadrant, leaving empty space.

[0026] Furthermore, it is preferable to have at least one top flap in either quadrant (0,3) or quadrant (2,3). More preferably, both quadrants (0,3) and (2,3) would contain a top flap. Furthermore, in a preferred embodiment, as seen in Figure 5, both top flaps would contain product openings that would aid in securing the objects being carried from moving laterally, longitudinally, or vertically.

[0027] In yet another preferred embodiment, and with continued reference to Figure 5, the rectangular shaped material used to make the foldable box assembly preferably contains handle apertures in the top flaps in quadrants (0,3) and (2,3).

[0028] It is also preferred that either quadrant (0,1) or quadrant (2,1) comprises a bottom flap. In addition, a handle is preferably integrated with the mentioned bottom flap. Therefore, if there is a bottom flap in quadrant (0,1), it is preferable to have a cut-out, leaving the shape of a handle, in quadrant (0,0); and likewise, if there is a bottom flap in quadrant (2,1), it is preferred that quadrant (2,0) contain a cut-out leaving the shape of a handle. In yet another preferred embodiment, both quadrants (0,1) and (2,1) contain bottom flaps and quadrants (0,0) and (2,0) contain handles. It should be noted, however, that any combination of bottom flaps in quadrants (0,1) and (2,1), and handles in quadrants (0,0) and (2,0) may exist.

[0029] In yet another preferred embodiment of the present invention, and with continued reference to Figure 5, quadrants (1,3) and (3,3) preferably contain cut-outs leaving the shape of top minor flaps and quadrants (1,1) and (3,1) preferably contain cut-outs leaving the shape of bottom minor flaps.

[0030] Lastly, it should be appreciated that the present invention has been described above with reference to various exemplary embodiments. Those skilled in the art will recognize that changes and modifications may be made to these embodiments without departing from the scope of the present invention. For example, it should be appreciated that foldable box assembly 10 may be suitably configured to include various other features, including, without limitation, clear material on the sides of the assembled box or protrusions that allow an individual to see inside the box and the like. Various other changes to the overall shape of the foldable box assembly may also be made. These and other changes or modifications are intended to be included within the scope of the present invention as set forth herein.